



Observational constraints indicate risk of drying in the Amazon basin

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Abstract:

Climate warming due to human activities will be accompanied by hydrological cycle changes. Economies, societies and ecosystems in South America are vulnerable to such water resource changes. Hence, water resource impact assessments for South America, and corresponding adaptation and mitigation policies, have attracted increased attention. However, substantial uncertainties remain in the current water resource assessments that are based on multiple coupled Atmosphere Ocean General Circulation models. This uncertainty varies from significant wetting to catastrophic drying. By applying a statistical method, we characterized the uncertainty and identified global-scale metrics for measuring the reliability of water resource assessments in South America. Here, we show that, although the ensemble mean assessment suggested wetting across most of South America, the observational constraints indicate a higher probability of drying in the Amazon basin. Thus, over-reliance on the consensus of models can lead to inappropriate decision making.

Source: <http://www.nature.com/ncomms/journal/v2/n3/full/ncomms1252.html>

Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A2

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Policymaker

Exposure :

weather or climate related pathway by which climate change affects health

Climate Change and Human Health Literature Portal

Ecosystem Changes, Extreme Weather Event

Extreme Weather Event: Drought

Geographic Feature: ☒

resource focuses on specific type of geography

Freshwater, Tropical, Other Geographical Feature

Other Geographical Feature : Basin;Rainforest

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Central/South America

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☒

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content